

REMARKS

Applicants thank the Examiner for total consideration given the present application. Claims 1-14 were pending prior to the Office Action. Claims 15-24 have been added through this Reply. Therefore, claims 1-24 are currently pending. Claims 1, 15, and 24 are independent. Claim 1 has been amended through this Reply. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

ALLOWABLE SUBJECT MATTER

Applicants appreciate that claims 2, 4, 5, 11, 13 and 14 are indicated to define allowable subject matter.

35 U.S.C. § 102 REJECTION – Hareyama ‘440, Hareyama ‘506

Claims 1, 3, and 12 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hareyama et al. (U.S. Patent No. 6,700,440)[hereinafter “Hareyama ‘440”]. Claims 1, 3, 7 and 8 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hareyama et al. (U.S. Patent No. 6,538,506)[hereinafter “Hareyama ‘506”]. Applicants respectfully traverse these rejections.

For a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. *See M.P.E.P. 2131; M.P.E.P. 706.02*. Thus, if the cited reference fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, it is respectfully submitted that neither Hareyama ‘440 nor Hareyama ‘506 teaches or suggests each and every claimed element. For example, amended independent claim 1 recites, *inter alia*, “matching condition changing means for changing a matching condition of said matching circuit in order to change an imaginary part of an output load impedance of the final stage amplifying element in response to output power of the amplifying

device.” *Emphasis added.* None of Hareyama ‘440 or Hareyama ‘506 teaches or suggests the above-identified feature of claim 1.

Hareyama ‘440 teaches a conventional high frequency power amplifier 1 in which output power is controlled by changing drain voltages of switching-driven transistors. In Hareyama ‘440, the drain voltages are controlled by utilizing a DC-DC converter 4. This reference also discloses a matching circuit 2 and a control signal CONT(2) to control the matching circuit 2 in order to meet matching condition in both high and low power operation. (*See col. 5, line 50 – col. 6, line 45.*)

Hareyama ‘440 is distinguished from the claimed invention in that no where does Hareyama ‘440 teaches or suggests that the control signal CONT(2) changes a matching condition of the matching circuit 2 in order to change an imaginary part of an output load impedance of a final stage amplifying element in response to output power of the power amplifier 1. Hareyama ‘440 merely discloses that the utilization of the matching circuit 2 makes it possible to obtain the maximum output of the amplifier 1 as fundamental circuit elements wherein a load is indicated as a load resistance R_o of the output terminal shown in Fig. 2(A). (*See col. 4, lines 46-50.*) Hareyama ‘440 provides no specifics regarding changing matching condition of the matching circuit 2 in order to change an imaginary part of an output load impedance of a final stage amplifying element in response to output power of the power amplifier 1.

Similar to Hareyama ‘440, Hareyama ‘506 also fails to teach or suggest the above-identified claim feature of claim 1.

Hareyama ‘506 is directed to a conventional matching apparatus 20 of a wireless telephone set comprising a reception antenna (load) 4, a power amplifying means 1, a switching means 10, a matching circuit 3 and a CPU 8. Hareyama further discloses that output power information is provided from the CPU 8 to the matching circuit 3, whereby the switching means

10 provided within the matching circuit 3 is switched based on this output power information. (See Figs. 1 and 2; col. 2, line 64 – col. 3, line 4; and col. 4, lines 36-56.)

Hareyama '506 is distinguished from the claimed invention in that no where does Hareyama '506 teaches or suggests that the CPU 8 changes a matching condition of the matching circuit 3 in order to change an imaginary part of an output load impedance of a final stage amplifying element in response to output power of the power amplifying means 1.

Therefore, for at least these reasons, independent claim 1 is distinguishable from Hareyama '440 or Hareyama '506. Claims 3, 7, 8, and 12 depend from claim 1, directly or indirectly. Therefore, for at least the reasons stated with respect to claim 1, claims 3, 7, 8, and 12 are also distinguishable from these references.

Accordingly, Applicants respectfully request that the rejection of claims 1, 3, and 12 based on Hareyama '440 and the rejection of claims 1, 3, 7 and 8 based on Hareyama '506, be withdrawn.

REJECTION UNDER 35 U.S.C. § 103(a)

The Examiner rejects claim 6 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hareyama '440 in view of Yamaguchi et al. (U.S. Patent No. 6,130,589)[hereinafter "Yamaguchi"]. Claims 7-10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hareyama '440. Claim 6 is rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hareyama '506 in view of Yamaguchi. Claims 9 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hareyama '506. Applicants respectfully traverse these rejections.

Claims 6 and 7-10 depend from claim 1, directly or indirectly. As demonstrated above in great detail, neither Hareyama '440 nor Hareyama '506 teaches or suggests, *inter alia*, "matching condition changing means for changing a matching condition of said matching circuit in order

to change an imaginary part of an output load impedance of the final stage amplifying element in response to output power of the amplifying device” as recited in claim 1.

Yamaguchi has not been, and indeed cannot be, relied upon to fulfill the above-identified deficiency of Hareyama ‘440 or Hareyama ‘506.

Therefore, for at least the reasons stated with respect to claim 1, claims 6 and 7-10 are also distinguishable from the applied prior art references. Accordingly, it is respectfully submitted that the obviousness rejection of claims 6 and 7-10 be withdrawn.

NEW CLAIMS

Method claims 15-23 have been added through this Reply of which claim 15 is independent. Note that claim 15 is directed to a method corresponding to the allowable claim 2. Claim 15 recites, *inter alia*, “changing a matching condition of said matching circuit for increasing an imaginary part of an output load impedance of the final stage amplifying element in response to a reduction of output power of the amplifying device.” As acknowledged by the Examiner, none of the applied prior art references, either alone or in combination, teaches or suggests the above-identified feature of claim 15. Thus, it is respectfully submitted that claim 15 and its dependent claims 16-23 are allowable over the applied prior art references.

New independent claim 24 recites the allowable subject-matter of claim 11. Thus, it is respectfully submitted that claim 24 is allowable over the applied prior art references.

CONCLUSION


In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ali M. Imam Reg. No. 58,755 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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